

L. G. CROSBY & J. C. SLAUGHENHAUPT.
WRENCH.

APPLICATION FILED JULY 20, 1911.

1,039,493.

Patented Sept. 24, 1912.

2 SHEETS-SHEET 1.

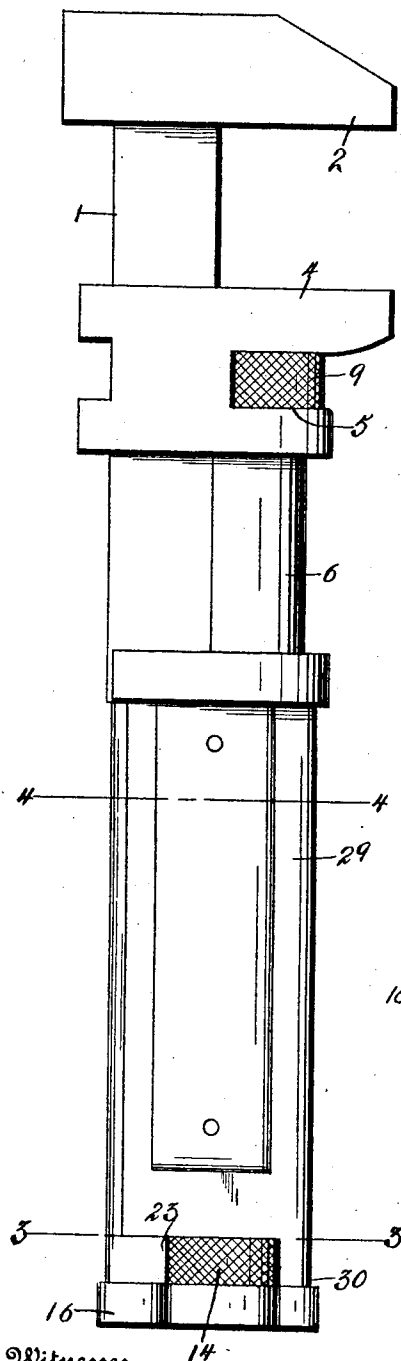


Fig. 1

Fig. 3

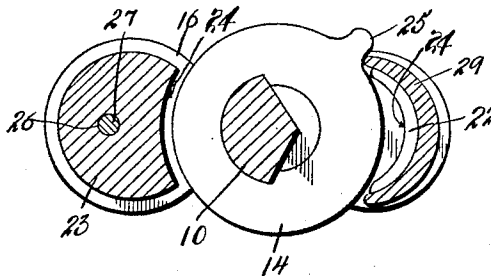
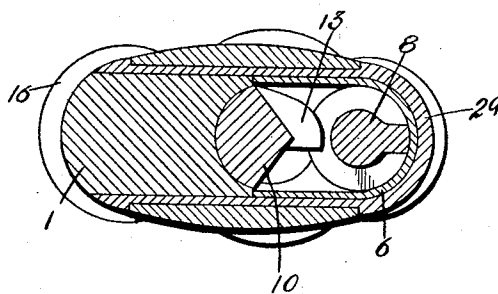


Fig. 4



Witnesses
Edith

Chas. L. Richardson

Inventors
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J. C. Slauchenhaupt.

By *[Signature]*

Attorneys

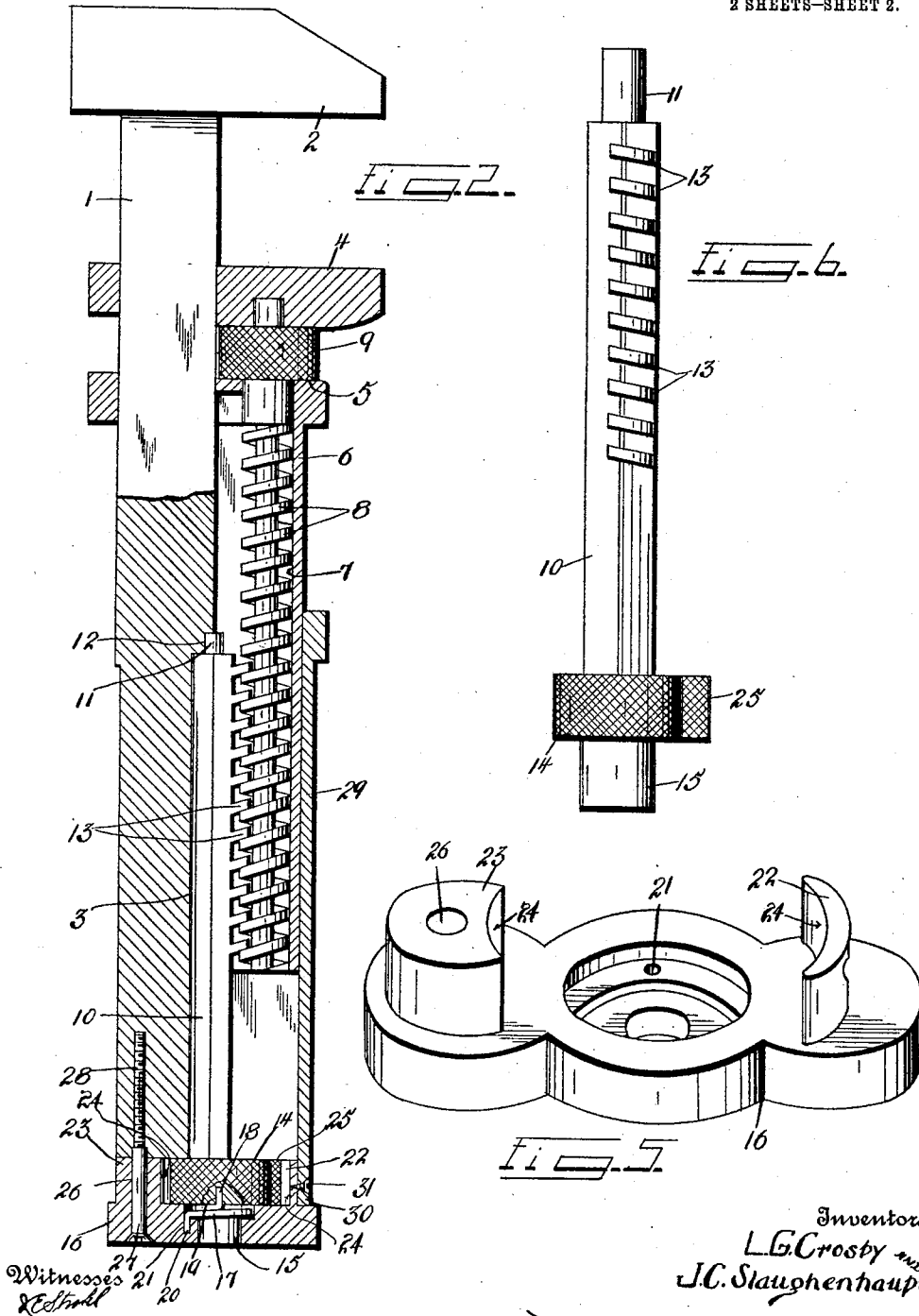
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2 SHEETS—SHEET 2.



Witnesses
R. E. Ford

By

Charles F. Smith

Attorneys.

UNITED STATES PATENT OFFICE.

LEONARD G. CROSBY AND JACOB C. SLAUGHENHAUPT, OF OURAY, COLORADO.

WRENCH.

1,039,493.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed July 20, 1911. Serial No. 639,550.

To all whom it may concern:

Be it known that we, LEONARD G. CROSBY and JACOB C. SLAUGHENHAUPT, citizens of the United States, residing at Ouray, in the county of Ouray, State of Colorado, have invented certain new and useful Improvements in Wrenches; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to wrenches, and particularly to that class known as quick acting, and has for its object to produce a device of this character which is simple in construction, durable and efficient in operation, and one which may be manufactured cheaply.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a side elevation of the wrench. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a transverse sectional view on line 3—3 of Fig. 1. Fig. 4 is a sectional view on line 4—4 of Fig. 1. Fig. 5 is a detailed view of the lower end of the wrench, showing the mode of securing the butt to the lower end of the shank. Fig. 6 is a detailed perspective view of the rock rod removed.

Referring to the drawings, the numeral 1 designates the shank having formed integral with its outer end a jaw 2. The lower portion of the shank 1, and upon the inner face thereof is formed a channel 3, the outer face of this portion of the shank being rounded so that the hand of the operator may grip the wrench, when all parts are assembled, in a comfortable manner. An inner jaw 4 is slidably mounted upon the shank 1 and is provided with an open slot 5, the purpose of which will be hereinafter described. Formed integral with the lower portion of the jaw 4 is an extension 6, said extension being provided with a longitudinal groove 7 and in which is rotatably

mounted a worm screw 8 the upper end of which extends into the open slot 5 and is adapted to have rigidly secured thereto a knurled actuating nut 9.

Mounted in the channel 3 of the shank 1 is a rock rod 10, the upper end of which is provided with a short extension 11 which engages with a recess 12 formed in the shank 1. The rock rod 10 is further provided with a plurality of obliquely arranged teeth 13, said teeth being spaced an equal distance apart and being adapted to engage between the convolutions formed upon the worm screw 8. The side of the rod opposite to the teeth is rounded to conform to the curvature of the channel 3. The lower end of the rod 10 is rigidly secured within the center of a knurled operating nut 14, said nut being provided upon its lower face with an extension 15, said extension being adapted to be passed through a suitable opening formed in the center of the butt plate 16.

Encircling the extension 15 is a coil spring 17, said spring having its upper terminal formed with a right-angle extension 18 and which is seated in an aperture 19 of the nut 14. The lower terminal of the spring 17 is formed with a similar extension 20, said extension being adapted to seat within an aperture 21 formed in the butt plate 16. When the spring is mounted in the manner described the same exerts a constant pressure upon the rod 10 so that the teeth thereof will normally engage between the convolutions of the worm screw 8.

The butt plate 16 is provided with integral flanges 22 and 23, respectively, each of said flanges having their opposing faces curved to conform to the curvature of the nut 14, the flange 22 acting to limit the rocking movement of the rod 10. This is accomplished by providing the nut 14 with an extension 25 which contacts with the end of the flange 22.

A vertical opening 26 is formed through the butt plate 16 and flange 23 and through which is passed a screw 27, said screw having threaded connection with an opening formed in the lower end of the shank 1, whereby the butt plate is firmly secured to the shank. A housing 29 is provided and is adapted to be placed upon the lower portion of the shank and over the extension 6 of the inner jaw 4, said housing being provided with an extension 30, said extension embrac-

ing the flange 22 of the butt plate 16 and securely fastened thereto by a screw 31. The housing 29 is rigidly connected to the lower portion of the shank 1 by suitable screws, thus allowing the extension 6 of the inner jaw to slide freely therein for fine adjustment of the jaws.

The operation of the device is as follows: Upon the rocking of the rod 10 in one direction the teeth carried thereby are removed from engagement with the convolutions of the worm 8, and the inner jaw may be quickly and easily adjusted upon the shank for engagement with a nut. The nut 14 is then allowed to rotate until the extension 25 is arrested by the flange 22 when the teeth of the rod 10 will engage between the convolutions of the worm screw 8 to hold the inner jaw in its adjusted position. When it is desired to obtain a fine adjustment between the jaws it is only necessary that the nut 9 be rotated and by its rigid connection with the worm 8 said worm will be likewise rotated and the inner jaw may be adjusted as required, the extension sliding freely within the housing 29.

What is claimed is:—

1. In a wrench comprising a shank having a jaw fixed to its outer end, an inner jaw slidably mounted on said shank, a grooved extension formed upon the inner jaw, a worm screw mounted for rotation within the grooved extension, a channel formed in the lower end of the shank, a rod adapted for rocking movement within said channel, teeth formed upon said rod and being adapted to engage between the convolutions of the worm screw, and means carried by said rod for rocking the same to permit quick adjustment of the inner jaw, and means carried upon the worm screw to permit fine adjustment of the inner jaw.

2. In a wrench of the class described, comprising a shank having a jaw rigidly secured to its outer end, a channel formed in its lower portion, an inner jaw slidably mounted upon the shank and having a

grooved extension, a worm screw rotatably mounted within the grooved extension, a rock rod mounted in the channel portion of the shank, teeth formed integral with said rod and being arranged in spaced oblique relation, said teeth being adapted to normally engage between the convolutions of the worm screw, means for yieldingly holding the rock rod teeth in engagement with the worm screw, said means being operable to disengage the teeth of the rock rod from the worm screw to permit adjustment of the inner jaw and means carried by the worm screw to permit further adjustment of said jaw.

3. In a wrench comprising a shank having a channel formed in its lower end and a jaw formed upon its outer end, a jaw slidably mounted upon said shank, an extension formed integral with said jaw, a groove formed in said extension, a worm screw rotatably mounted in said groove and having an operating nut secured to its upper end, a toothed rocking rod mounted in the channel of the shank and adapted to mesh with the convolutions of the worm screw, a butt plate secured to the lower end of the shank, an operating nut secured to the lower end of the rocking rod and adapted to have its lower face resting upon the butt plate, an extension formed integral with said nut and passing through the butt plate, a coil spring surrounding said extension and having its opposite terminals secured to the last mentioned nut and butt plate, whereby the toothed rocking rod normally engages the worm screw, a housing rigidly secured to the shank and in which the extension of the sliding jaw is adapted to slide upon operation of the last mentioned nut.

In testimony whereof we affix our signatures in presence of two witnesses.

LEONARD G. CROSBY.

JACOB C. SLAUGHENHAUPT.

Witnesses:

E. E. WHEELER,

E. A. PHINNEY.